AMENDMENT TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims

1-14. (Canceled).

15. (New) A method for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, preferably a horse, which method specifically measures the myeloperoxidase (MPO) content only, which is correlated with said cell activation status, wherein the method comprises the steps of:

- obtaining a biological sample from said mammal, the sample containing said neutrophil cells and/or myeloperoxidase (MPO) released by the neutrophil cells,
- capturing myeloperoxidase (MPO) present in the biological sample via a myeloperoxidase (MPO) specific polyclonal or monoclonal antibody,
- detecting and/or measuring either total (active and inactive) myeloperoxidase (MPO) or exclusively active myeloperoxidase (MPO) present in the biological sample.

16. (New) The method according to claim 15 which is a sandwich ELISA detection method, wherein detection is obtained through a second labelled antibody binding to a immunological complex formed by the first myeloperoxidase (MPO) recognizing immobilized antibody and the myeloperoxidase (MPO).

17. (New) The method according to claim 15 which is a SIEFED detection method, wherein the step of immunocapturing myeloperoxidase (MPO) is followed by a washing step to remove any components that can interfere with the measurement of myeloperoxidase (MPO) enzymatic activity, the enzymatic activity of the myeloperoxidase fixed on its specific antibody

then detected by adding a specific substrate to be transformed by the myeloperoxidase (MPO) into a visible reaction product.

18. (New) The method according to claim 17 wherein H_2O_2 and a suitable fluorimetric reaction product of a substrate, such as 10-acetyl-3, 7-dihydroxyphenoxazine are added to the reaction medium.

19. (New) The method according to claim 15, wherein said biological sample is a cellular or acellular sample selected from the group consisting of arterial, venous and capillary blood, serum, plasma, seminal fluid, broncho-alveolar fluid, urine, saliva, endotracheal fluid, peritoneal fluid, uterine irrigation liquids, sputum, synovial fluid, broncho-alveolar fluid, nasal fluid, gastric bowel and faecal derivate samples, cerebrospinal fluid and tissue extracts.

20. (New) The method according to claim 15, wherein a neutrophil cell activation status is measured and correlated to a disease and/or pathology.

21. (New) The method of claim 15, which further comprises the steps of:

- comparing myeloperoxidase (MPO) values with normal myeloperoxidase (MPO) levels obtained from a significant number of healthy mammals,
- optionally quantifying MPO levels using a standard myeloperoxidase (MPO) curve, and
- relating the myeloperoxidase (MPO) levels measured to an activity status of the cells indicative of the presence, or absence of a disease or conditions of the immunological status of the mammals.

22. (New) The method of claim 15, wherein the mammal is a horse.

23. (New) The method of claim 18, wherein a sufficient amount of nitrite is added to the reaction medium to enhance the generated fluorescent signal.

24. (New) The method according to claim 15:

- for the detection and/or the prediction of a disease or pathology selected from the group consisting of chronic or acute inflammatory diseases, digestive pathologies, strangulated intestinal pathologies, sepsis, septic shock, chronic and acute pulmonary pathologies, ischemia-reperfusion

pathologies, articular pathologies, colics, laminitis, allergies, infections and cardiovascular diseases,

- to follow-up neutrophil cell activiation during therapy of a diseased mammal,
- to evaluate the ability of neutrophil cells and/or drugs to fight against micro-organisms and/or to destroy them,
- to evaluate the efficiency of immunomodulators or the *in vitro* inhibitory capacity of drugs by comparing the neutrophil activation status of treated and non-treated neutrophils,
- to evaluate the ability of neutrophils treated with modulators and/or drugs to against micro-organisms and/or to destroy them,
- to evaluate the natural defense capacity or ability of a mammal to fight against micro-organisms,
- to screen and to select compounds which interact with myeloperoxidase (MPO) and possibly inhibit myeloperoxidase (MPO) activity or
- to distinguish between total and active myeloperoxidase (MPO) content in the biological sample.

25. (New) An ELISA kit or device for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, which ELISA kit or device specifically measures the total (active and inactive) myeloperoxidase (MPO) content, said content being correlated with said cell activation status, said ELISA kit or device comprising the necessary elements for:

- immunocapturing myeloperoxidase (MPO) that is present in a biological sample obtained from a mammal and containing said neutrophil cells or myeloperoxidase (MPO) released by said cells, said immunocapturing being preferably obtained by a first MPO-recognizing polyclonal or monoclonal antibody immobilized to a solid support,
- detecting and/or measuring active and inactive myeloperoxidase (MPO) present in said biological sample, by a second enzymatically labelled

myeloperoxidase (MPO) recognizing polyclonal or monoclonal antibody for detection of immunocaptured myeloperoxidase (MPO).

26. (New) A SIEFED kit or device for measuring the activation status of neutrophil cells in a biological sample obtained from a mammal, which SIEFED kit or device specifically measures the active myeloperoxidase (MPO) content only, said content being correlated with said cell activation status, said SIEFED kit or device comprising the necessary elements for:

- immunocapturing MPO present in a biological sample, preferably a biological fluid, obtained from a mammal, the sample containing said neutrophil cells or myeloperoxidase (MPO) released by said cells,
- detecting and/or measuring active myeloperoxidase (MPO) present in said biological sample.

27. (New) A screening and selection method of compound(s) interacting with myeloperoxidase (MPO), which comprises the steps of:

- capturing active myeloperoxidase (MPO) to a solid support,
- adding one or more compound(s) to the active myeloperoxidase (MPO),
- measuring myeloperoxidase (MPO) activity after addition of the compound(s).

28. (New) The method of claim 27, wherein the step of capturing active myeloperoxidase (MPO) is done by an antibody.

29. (New) The method according to the claim 27, which comprises after the step of adding one or more compound(s) to the active myeloperoxidase (MPO) a step of washing of the compound(s) which are not bound to the active myeloperoxidase (MPO).

30. (New) The method of claim 27 for the screening selection of compounds inhibiting myeloperoxidase (MPO) activity.

31. (New) The method of claim 27 which further comprises the step of:

- measuring myeloperoxidase (MPO) activity before addition of the compounds,
- comparing myeloperoxidase (MPO) activities before or after addition of the compounds, and
- recovering the compounds that interact with myeloperoxidase (MPO).